

# United States Patent [19]

Mayer et al.

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[54] INHIBITING THE DEVELOPMENT OF TOLERANCE TO AND/OR DEPENDENCE ON AN ADDICTIVE SUBSTANCE

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[\*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,321,012.

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## Related U.S. Application Data

[63] Continuation of Ser. No. 43,280, Apr. 6, 1993, Pat. No. 5,321,012, which is a continuation-in-part of Ser. No. 10,583, Jan. 28, 1993, abandoned.

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[52] U.S. Cl. .... 514/25; 514/216; 514/223.5; 514/225.5; 514/224.5; 514/282; 514/231.2; 514/304; 514/305; 514/306; 514/307; 514/812

[58] Field of Search ..... 514/25, 304, 305, 514/306, 307, 216, 223.5, 225.5, 224.5, 282, 231.2, 812

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## [57] ABSTRACT

Nontoxic substances that block the N-methyl-D-aspartate (NMDA) receptor, e.g., a morphinan such as dextromethorphan or dextrorphan, or that block a major intracellular consequence of NMDA-receptor activation, e.g., a ganglioside such as GM<sub>1</sub> or GT<sub>1b</sub>, a phenothiazine such as trifluoperazine or a naphthalenesulfonamide such as N-(6-aminohexyl)-5-chloro-1-naphthalenesulfonamide, inhibit the development of tolerance to and/or dependence on addictive drugs, e.g., narcotic analgesics such as morphine, codeine, etc.

2 Claims, 10 Drawing Sheets